

REMARKS

Before addressing the claim rejections, Applicants note the following features of their claimed invention. As discussed, for example, in the background section of the application, prior art encryption schemes suffered from a number of disadvantages. For example, should the user have to enter a password or code to access data stored on storage medium, use becomes cumbersome should the storage medium be transferred to a new machine as the user must remember the password and re-enter it. However, storing the decryption key on the player device or host system is also undesirable because the decryption key is then vulnerable to hacking.

To solve these problems in the prior art, Applicants have provided systems and methods that do not require a user to enter a password nor is the password vulnerable to hacking. For example, consider claim 1, which recites a method having the acts of: "generating an internal key using the data storage engine; generating a combination key by combining a the medium key with the internal key; and decrypting a first portion of data stored on the storage medium using said first combination key. The medium key is, as the name suggests, a key stored on the storage medium. However, a user cannot simply hack this medium key to unlock the content contained on the storage medium. Instead, the storage engine must generate the internal key and combine it with the medium key to produce a combination key, which may then be used to access the content. Such a method solves the problems associated with the prior art in that the combination key must be generated by the storage engine. As such, it is not stored on medium, making it vulnerable to hacking. Moreover, because it is internally generated by the storage engine, it is not accessible by the host system.

These advantageous features provided by the method recited in claim 1 are neither taught nor suggested by the cited prior art. For example, consider the Angelo reference (USP 5,923,754), which is directed to an encryption scheme to protect the data transfer from a DVD drive to a host's video controller/video monitor (see, e.g., Figure 2 depicting the DVD drive

as element 12 and the video controller/monitor as elements 18 and 20). In this scheme, the DVD drive reads a "disk key" and a "media key" directly from the DVD – see, e.g., Figure 3. But note that the abstract refers to these keys as the "data key" and the "medium key." Regardless of what they are called, it is these keys that are used to decrypt the content. Thus, the keys are vulnerable to hacking as described above. To protect them, the Angelo reference discloses an encryption scheme between the DVD drive and the host video system. The DVD drive generates an internal key (referred to as the first key in the Abstract) that is combined with a key stored in the host video system (referred to as the output key in the Abstract) to form a "second secure transfer key." This second secure transfer key is then used to encrypt the data key and medium key before they are passed to the host video system, which then decrypts to recover the data key and the medium key. But note the glaring problem: a DVD drive that merely transferred the data key and the medium key without encryption would leave the content vulnerable to hacking.

In sharp contrast, the method recited in claim 1 requires the generation of a combination key to decrypt the encrypted content. This combination key is NEVER stored on the storage medium as disclosed in Angelo. Instead, the storage engine must first generate an internal key and then combine the internal key with the medium key to produce the combination key, which is then used to decrypt the encrypted content. As such, the method recited in claim 1 is superior to that disclosed in Angelo. Because Angelo makes no teaching or suggestion for such an advantageous method, claim 1 is patentable over the Angelo reference.

The Silverbrook reference (USP 6,334,190) adds nothing further as it is directed to authentication schemes to prevent users from, for example, using non-authenticated printer cartridges as refills in printers. As such, Silverbrook does nothing to cure the deficiencies in

the Angelo references. Accordingly, claim 1 is patentable over the combination of Angelo and Silverbrook.

Because claims 2 -3, and 6 through 13 depend either directly or indirectly upon claim 1, they are patentable over the Angelo and Silverbrook references for at least the same reasons. Claims 4 and 5 are cancelled, thereby mooted their rejections. Claims 10 and 11 have been amended to remove the "plurality" antecedent basis problem. However, with respect to "first portion of data," Applicants note that antecedent basis is provided for by claim 1. Because claims 10 and 11 depend indirectly upon claim 1, they share this antecedent basis with claim 1.

Claim 14 is patentable over the Angelo and Silverbrook references analogously as discussed with respect to claim 1. For example, those reference make no teaching or suggestion for the provision of "a plurality of combination keys from the plurality of medium keys and the plurality of internal keys; and decrypting a first portion of the data using a first combination key from the plurality of combination keys." Because claims 15 through 21 depend either directly or indirectly upon claim 14, they are patentable over the art of record for at least the same reasons. The antecedent basis problem noted in claim 14 has been addressed by spelling out the well-known acronym "ASIC" as "application specific integrated circuit." In turn, this cures the same problem in claim 16.

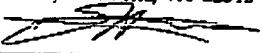
In addition, Applicants have amended the specification to provide missing serial/patent numbers corresponding to the title and attorney docket numbers already provide for and to address a minor typographical error.

Claims 22 through 25 stand withdrawn as being directed to a non-elected species.

CONCLUSION

For the above reasons, pending Claims 1 – 3, and 6 – 21 are in condition for allowance and allowance of the application is hereby solicited. If the Examiner has any questions or concerns, a telephone call to the undersigned at (949) 752-7040 is welcomed and encouraged.

I hereby certify that this correspondence is being facsimile transmitted to (703) 872-9306: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on March 24, 2004.


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Date of Signature

Respectfully submitted,



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